

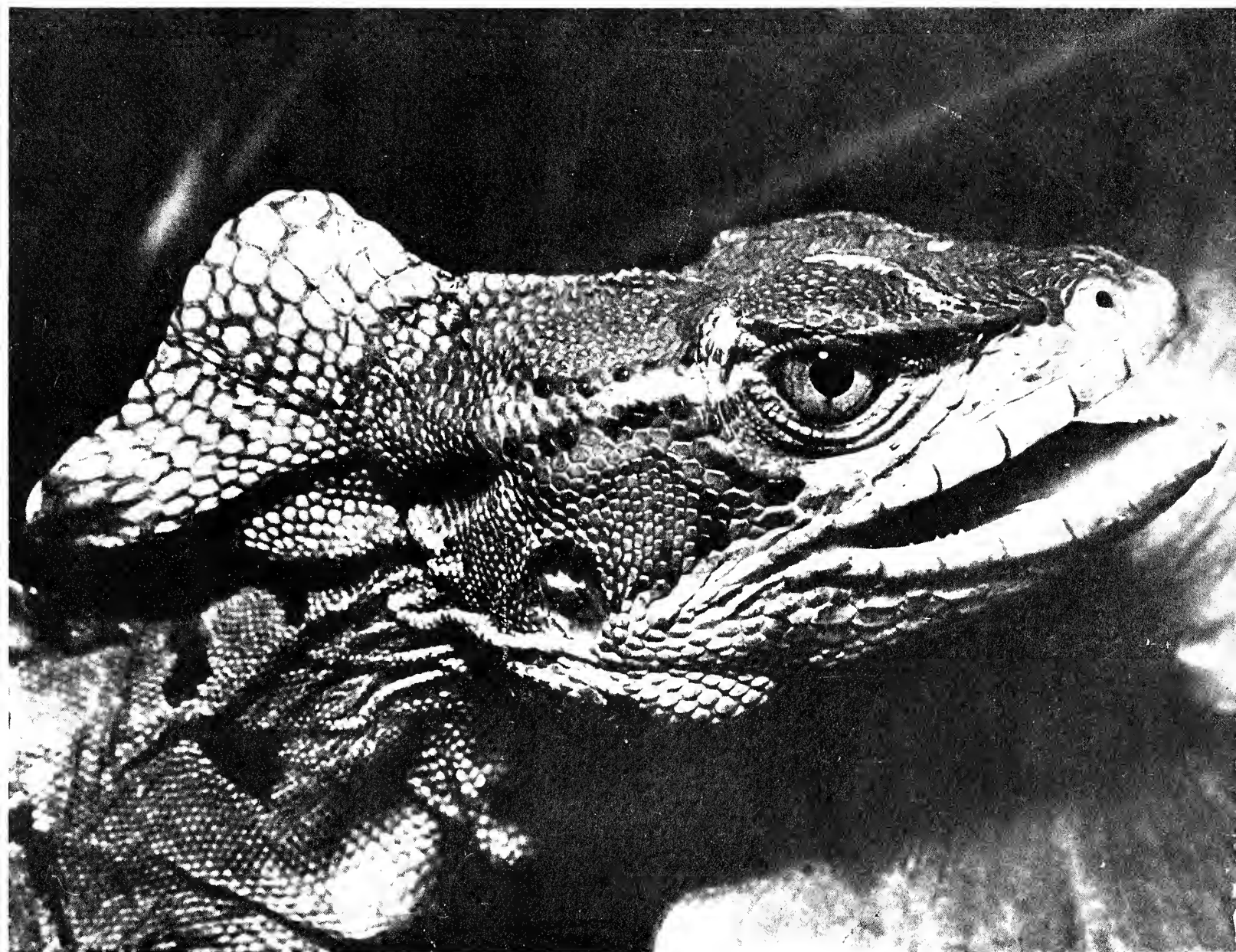
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A mating antic of the long-tailed 17
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EDITORIAL STAFF: John E. Cooper (Editor), Haven Kolb and Herbert
C. Moore (Associate Editors).

COVER: *Basiliscus vittatus*, a lizard of Central America, which
has earned for itself the local name of "Jesucristo"
because of its habit of running across the surface of
water. This splendid photo is the work of Dr. Robert S.
Simmons.

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Fig. 1. (Upper) Headquarters for our British Honduras expeditions: the Fort George Hotel in Belize.. The palms are bent by the trade winds which blow unceasingly off the Caribbean. (Lower) Roaring Creek, Cayo District. The pole-and-thatch hut and the primitive mud oven contrast with the modern police station across the street.

NATURE AND MAN IN BRITISH HONDURAS

by *Wilfred T. Neill*

Research Division, Ross Allen's Reptile Institute, Inc.

Silver Springs, Florida

This is a brief sketch of a small country, the smallest in Central America; not a fiery Latin republic but a quiet British colony on the shores of the Caribbean. Lying south of Mexico and east of Guatemala, the land is called British Honduras.

It is a country whose capital is built at sea level in a mangrove swamp; where a waterfall, reputedly a thousand feet high, has gone unnamed and uninvestigated; where hundreds of offshore islets form a barrier reef rivaled only by Australia's; where rainforest and jungle, pineland and grassland, swamp and dry scrub, intermingle to provide a natural setting of unsurpassed complexity.

The people of the country are equally complex. In this land the blood lines of African Negroes, Maya Indians, and Scotch pirates have blended to form a new racial type; the descendants of escaped slaves speak an American Indian language, and hold themselves apart from other people; the blue-eyed Baymen of Belize sail their little sloops among coral islands.

British Honduras is a land of paradox and startling contrast. At San Pedro Columbia a brown-skinned Kekchi Indian woman, naked to the waist, poles the rare visitor across a turbulent river to view the ancient ruins of Lubaantun, while scarcely 100 miles away in the capital a specialist in management research lectures to the Rotary Club on methods engineering. At Succoths the Maya Indians pray impartially to Jesus, Mary, and Quh the Lord of the Thunders, for the success of the corn crop; in the church at San Antonio, candle smoke blends with the pagan scent of burning copal incense. In Mountain Pine Ridge the loveliest of orchids is apt to shelter the fer-de-lance, most sinister of snakes; and at Belize the visiting American sportsman is apt to take a taxi to go jaguar hunting.

I first came to British Honduras in early 1959, with Ross Allen. For a decade he and I had been studying the wildlife of the Southeastern United States, with occasional jaunts to various other countries; but we had now decided to devote our research efforts largely to the exploration of tropical regions, and British Honduras seemed especially promising for it was biologically almost unknown. We were not disappointed. We have made six trips to the colony, and each has increased our enthusiasm for the land, its people, its wildlife, and its challenge to the biologist.

We are particularly interested in reptiles and amphibians; their distribution, ecology, and behavior; their responses to life in tropical environments. And within its 8866 square miles, British Honduras presents a variety of such environments.



Fig. 2. Some typical landscapes. (Upper) Looking across the savanna toward Gracy Rock, Belize District. (Center) Near Punta Gorda, Toledo District. (Lower) Jungle near San Antonio, Toledo District.

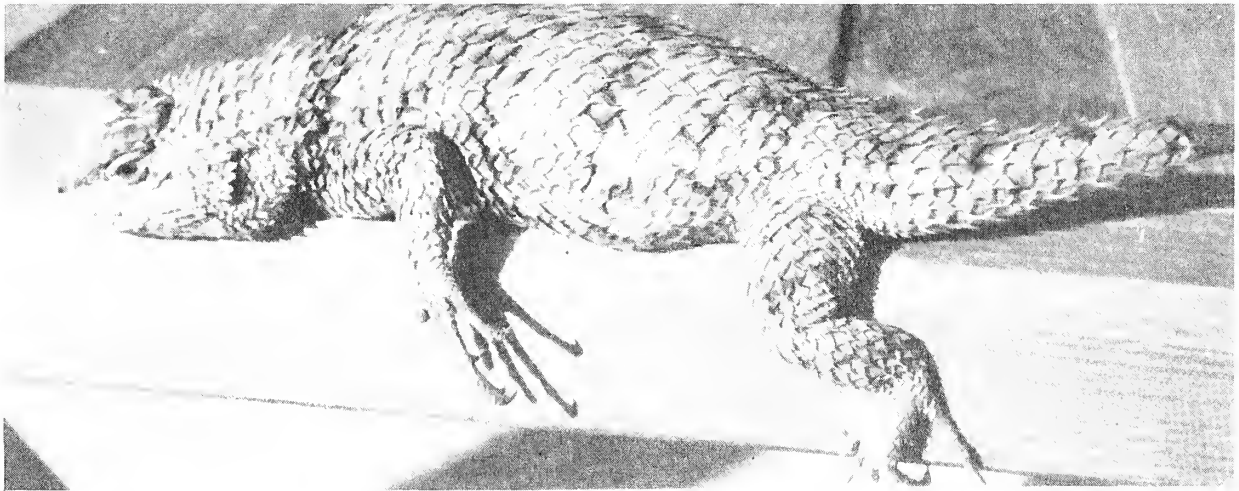


Fig. 3. (Upper) A large mussurana, *Clelia c. clelia*, from the rainforest bordering Mountain Pine Ridge. (Center) A spiny lizard, *Sceloporus l. lundelli*, from Augustine, Cayo District. (Lower) A sharp-toothed snake, *Xenodon mexicanus*, from Gallon Jug.

In the north, where the colony touches the Mexican state of Quintana Roo, relatively low rainfall and porous soils have combined with the activities of man to produce an arid, dusty scrubland. Here, thickets of coarse shrubs and stunted trees alternate with plantations of sisal, pineapple, and sugarcane. Characteristic reptiles of the dry, agricultural north include a drab little spiny lizard, *Sceloporus chrysostictus*; a hook-nosed snake, *Ficimia publia*; and a dull brownish box turtle, *Terrapene mexicana yucatana*.

Southward, the scrub gives way to vast savannas with palms and pines, clumps of palmettoes, and oak "islands." The aspect is very reminiscent of southern Florida. Ribbon snakes, *Thamnophis sauritus chalcus*, looking much like the Florida one, strike another familiar note. Dotted the savanna are innumerable shallow basins with calabash trees, whose branches are decked with airplants and orchids. Herpetologists are always lured by airplants, for these floral oddities often retain water in the leaf axils, and during the dry season this may be the only water for miles around. Frogs and salamanders, lizards and snakes, spiders, millipedes and centipedes, mosquitoes, ants, beetles, moths, land crabs, snails and slugs, birds' nests, even mice and opossums-- all these are apt to be found in airplants during at least a part of the year. In British Honduras the commonest inhabitant of airplants is a tiny gray treefrog, *Hyla staufferi*, which hops like a cricket and has a cricket-like call. Also common is a big treefrog, *Phrynohyas spilomma*, whose glandular skin gives off a copious white slime. (The collector does well to keep this exudate out of cuts and away from mucous membranes!)

During the rainy season the airplants are not especially productive, but the basins of the savanna become ponds and so attract breeding frogs. Most abundant of these is *Leptodactylus melanonotus*, a small, fat amphibian whose call is a single low note. If weather conditions are just right, these little frogs carry on nocturnal breeding activities that can only be described as frenzied; and by dawn the egg masses dot the shallows, looking as though globs of tapioca had rained down during the night.

Our most interesting find in the savanna was a short-faced snailsucker, *Dipsas brevifacies*, which was hiding under a cluster of orchids on the trunk of an oak. It is a snake with unusual anatomical modifications for a diet of snails. In this reptile, as in snakes generally, the bones that support one side of the lower jaw are not fused with those of the other side. Thus the right and left portions of the lower jaw are capable of independent movement. But in *Dipsas* each portion is also provided with a sort of hinge, so that the tip of the bone -- which bears needle-like teeth -- can be twisted outward at right angles to the remaining part. The reptile lunges at a snail, sinking the teeth deeply. Then the tips of the jaw bones twist outward, firmly imbedding the teeth in the snail's flesh. Now anchored, the snake pulls the mollusk from its shell like a cork from a jug. The oak island, where we caught our specimen, was littered with snail shells, but of course we could not be sure that *Dipsas* was the only predator at work there.

Southward of the savanna, the land begins to rise; rainfall increases; forests appear. Ceiba, mahogany, breadnut, mayflower, ziricote, sapodilla, rosewood, santa maria, balsa rear their crowns high above the forest floor.

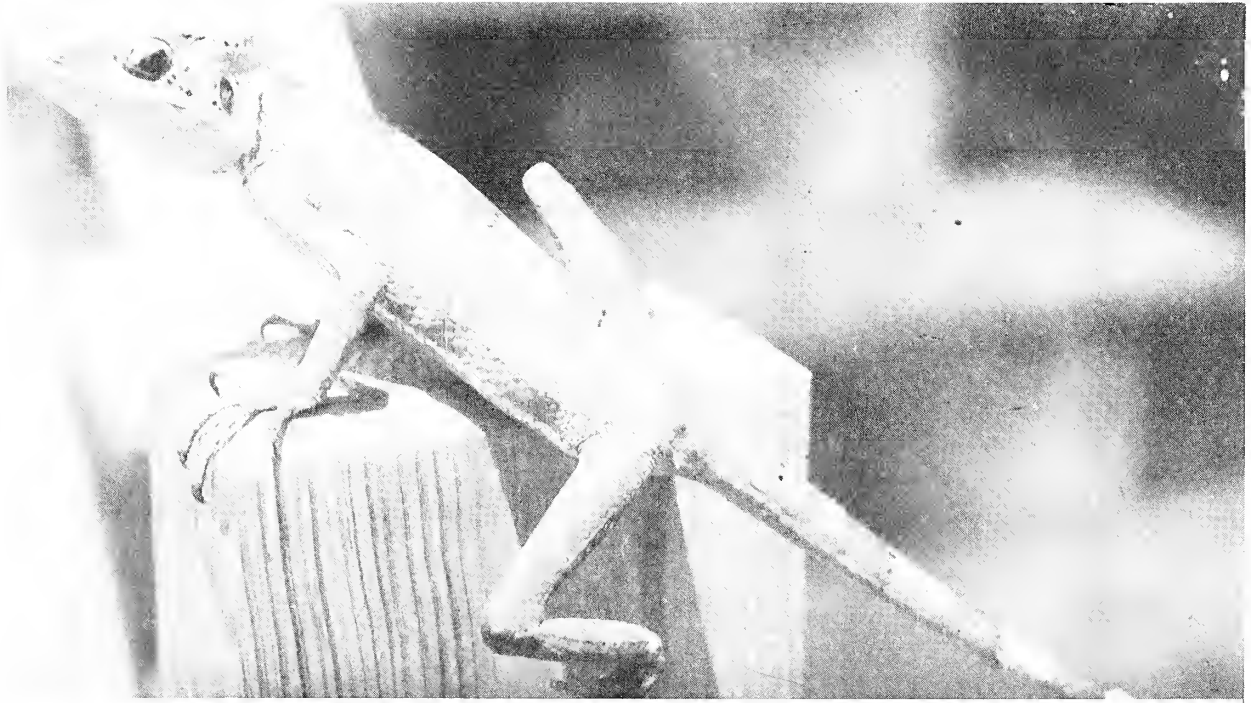


Fig. 4. (Upper) The striped basilisk, *Basiliscus vittatus*, is by far the commonest reptile in the country; it may be seen almost anywhere. (Center) In contrast, the casque-headed basilisk, *Laemanctus deborrei*, is rarely encountered. This example is from Gallon Jug, Orange Walk District. (Lower) The abbess lizard or helmeted basilisk, *Corythophanes cristatus*, is likewise uncommon. This specimen is also from Gallon Jug.

This is the habitat of the irascible white-lipped peccary, the blundering tapir, the agouti, the spider monkey, the kinkajou with its gnomish face, the spotted paca whose flesh is deemed a delicacy. In the rainforest our camp is apt to be visited by a band of nosy coati-mundis, and each dawn we are sure to be aroused by parrots and toucans squabbling in the branches overhead. Troops of black howling monkeys, excited by some marauding jaguar or ocelot, make the jungle echo with the volume of their roars.

In the forest, airplants often yield a striped, red and black salamander, *Bolitoglossa m. mexicana*, with webbed, flattened feet. They also yield a cat-eyed snake, *Leptodeira septentrionalis polysticta* a slender, spotted reptile with the curious habit of eating frogs' eggs. Big green and orange treefrogs, of the genus *Phyllomedusa*, lay their eggs not in water but in leafy clusters far above the ground; and when the frogs congregate for their arboreal breeding activities, so too do the cat-eyed snakes gather to feed impartially upon the amphibians and the frothy egg masses. This reptile, while rear-fanged and mildly venomous, is of gentle disposition; but it is greatly feared by residents of British Honduras, who call it "cohune ridge tommygoff." The name "tommygoff" is from an Indian word, *tamaga*, which signifies the deadly lancehead snakes; "cohune ridge" is a plant association dominated by the cohune palm, in whose leaf axils the snake is often found. Anthony Wolffsohn, Assistant Conservator of Forests in British Honduras, believes that the cat-eyed snake may have come by its reputation through confusion with the truly dangerous eyelash viper, *Bothrops s. schlegeli*. Indeed, the two are rather similar in general appearance, and inhabit much the same places.

The forest floor supports an extensive reptile fauna. Particularly characteristic is the jumping viper, *Bothrops nummifer*, with its pattern like fallen leaves. Chunk-headed and coarse-scaled, heavy-bodied and long-fanged, it looks the epitome of all that is dangerous in the serpent world. Yet it too is good-natured; I have never persuaded one to strike, and so cannot testify as to the distance it will jump. The related but larger fer-de-lance, *B. atrox asper*, is more touchy, and has the disconcerting habit of coming out at dusk to lie on the warm roads and jungle trails. Yet accidents from its bite are very few. Indeed, the entire country of British Honduras has only about four or five cases of snakebite a year -- an enviable record.

Most of the forest reptiles do not occur where the floor of the jungle is deeply shaded. Rather, they are usually found along trails and around the edges of clearings, where sunlight strikes the ground. In such places one may find a glittering black mussurana, *Clelia c. clelia*; a gaudy coral snake, *Micrurus affinis alienus*; a bright green pikehead snake, *Oxybelis fulgidus*; a scarlet kingsnake, *Lampropeltis doliata polyzona*, much like the Florida one but far larger; and a variety of lizards, among which skinks and anoles predominate.

Thus there is in British Honduras a trend from the dry scrubland of the north through the palm and pine savanna to the dense jungle of the south. This is correlated with an amazingly sharp rainfall gradient. In the extreme

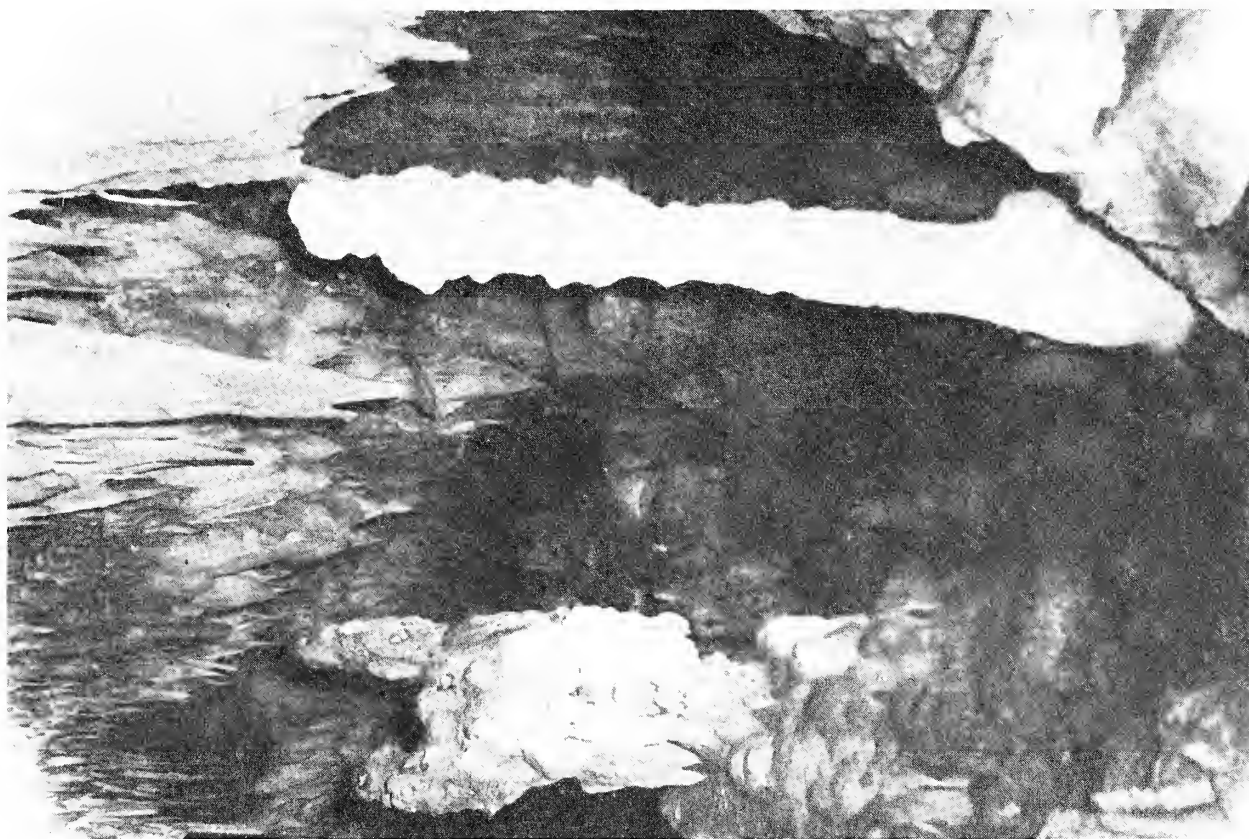


Fig. 5. (Left) One of the many smaller waterfalls in Mountain Pine Ridge.
(Right) In a cave near Augustine, Cayo District. Once the home of ancient
Maya Indians, today the cave is frequented only by a colony of vampire bats.



Fig. 6 (Left) Aerial view of a great waterfall, deep in Mountain Pine Ridge.
(Right) Looking toward Baldy Beacon, highest point of Mountain Pine Ridge.

north there may be only 40 inches of rain annually, while just 170 miles farther south the precipitation has risen to 200 inches. But in this land one comes to expect paradox, and it is not surprising to find that in one vast tract, Mountain Pine Ridge, the trends are abruptly reversed. The Ridge is a range of low mountains, ringed about with lush jungle, yet covered with grassland and stands of pine. This rugged area, with its brawling streams and waterfalls, its outcroppings of quartz and granite, reminded us of the North Carolina uplands. Nights in Mountain Pine Ridge are cold, at least to herpetologists who sleep on the ground. (Mr. Wolffsohn has recorded temperatures in the 30's, and thinks there may well be occasional frost on Baldy Beacon, the Ridge's highest point.) We were surprised to find that the fer-de-lance was abundant in the Ridge. It lived along the turbulent streams, and at night frequented streamside rocks which held the heat of the day. The imperial boa, *Constrictor constrictor imperator*, also seemed not to mind the chilly nights of the Ridge, although it was much less common there than in the mangrove swamps around Belize. Especially characteristic of the pineland were the tzabcan rattlesnake, *Crotalus durissus tzabcan*; the puma; the collared peccary; and a pocket-gopher. These are seldom or never encountered in the jungle.

To further complicate the biogeographic picture in British Honduras, the numerous islands just off the coast support a West Indian flora and fauna. Many of the insular plants show Jamaican affinities; and among reptiles, three anoles and two geckoes seem to be descended from Antillean rather than Central American stocks. One supposes that various ancestral lizards, or their eggs, survived a long drift voyage across the Caribbean in floating logs or storm-tossed debris.

Not only has Nature produced strange patterns of distribution in the colony; man has considerably altered the environment there. Many peoples have lived in British Honduras at one time or another. Speaking very generally, the capital city of Belize is now populated largely by English-speaking Negroes whose forefathers came to the country from other British holdings in the Caribbean; while the out-districts are populated mostly by Indians, the Yucatec Maya whose ancestors drifted in from Yucatan in fairly recent times. But along the coast, south of Belize, there are communities of the so-called Carib, actually the descendants of a band of Negroes formerly affiliated with the Carib Indians in the Lesser Antilles. In the southern portion of British Honduras, isolated behind the Cockscomb Range, are villages of the Mopan Maya and the more primitive Kekchi; and there are a few individuals of the Chol, a little-known people whom the Maya claim were the original founders of an ancient civilization in this part of the world.

British Honduras is littered with evidence of the Indians' past glory. Along road cuts and river banks one often finds scraps of broken pottery, grinding stones, polished beads, and spear points chipped from chalcedony or obsidian. Deep in the jungle one is apt to encounter inexplicable walls and pyramids of time-weathered masonry, almost buried beneath the grasping roots of giant trees. These ruined cities, although less famous than Chichen Itza or Uxmal, are much older; for the ancient civilization of the Maya Indians developed in British Honduras and nearby Guatemala, about 2000 years ago.



Fig. 7. (Upper) The author before an ancient Maya temple at the ruins of Xunantunich, Cayo District. The site was partially cleared by archaeologists. (Lower) The Maya ruins of Lubaantun, in Toledo District, are mostly covered with jungle. The old Indian is a Kekchi from the village of San Pedro Columbia.

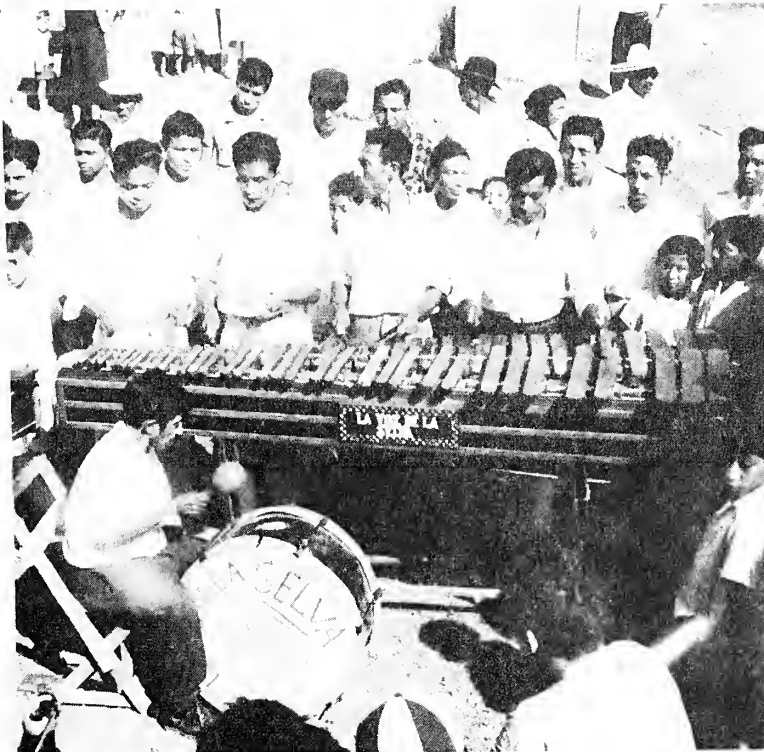
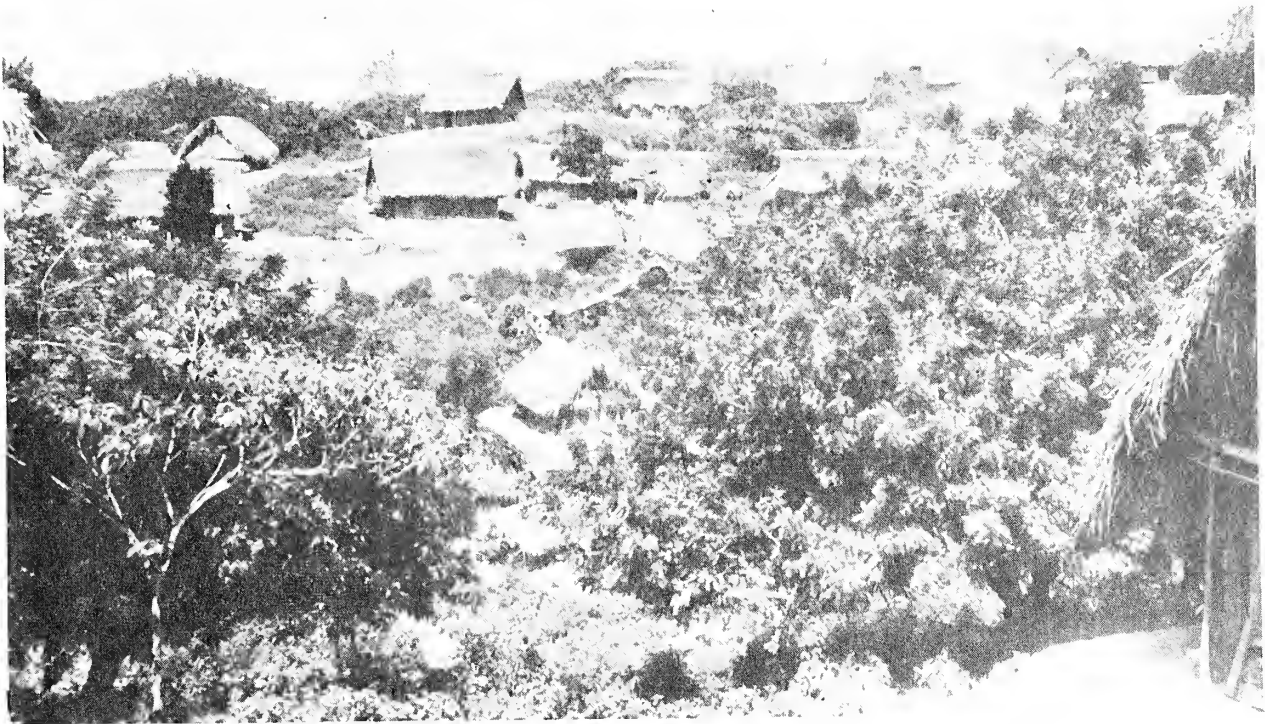


Fig. 8. (Upper) The Mopan Maya village of San Antonio, in Toledo District. (Lower left) A marimba troupe at the Yucatec Maya village of Succoths, Cayo District. Their name, "La Voz de la Selva," means "The Voice of the Forest." We made tape recordings of their music, and of the Maya language. (Lower right) A Maya youth from Succoths, photographed atop an ancient Maya pyramid at the ruins of Xunantunich.

The origin of this civilization still presents an enigma. Apparently its economic basis was the raising of corn. Prehistoric agricultural practices may have profoundly modified the British Honduras landscape; for the Maya farmer, in order to prepare his cornfield, first cut down a tract of forest and then burned the logs, ground debris, and humus. Knowing nothing of plows or draft animals, he farmed the ash with a digging stick. For two or three years the yield was rich, but it soon fell off and he had to clear another spot. The abandoned field would grow up, and in about ten years it might be ready for another burning and planting. Thus the farmer would maintain close to a dozen fields, one in use and the others in various stages of regrowth. This style of shifting agriculture is called *milpa*. For centuries the Maya carried on *milpa* agriculture in British Honduras. They built cities, temples, pyramids, tombs, ball courts, terraced fields, flint quarries, fishing villages. The entire length of the Belize River was heavily settled along both banks. The population may have risen to more than 2000 per square mile, at least within the river basin. Then, about 1000 years ago, the Maya left their British Honduras centers, moving northward to build a new civilization in southern Mexico.

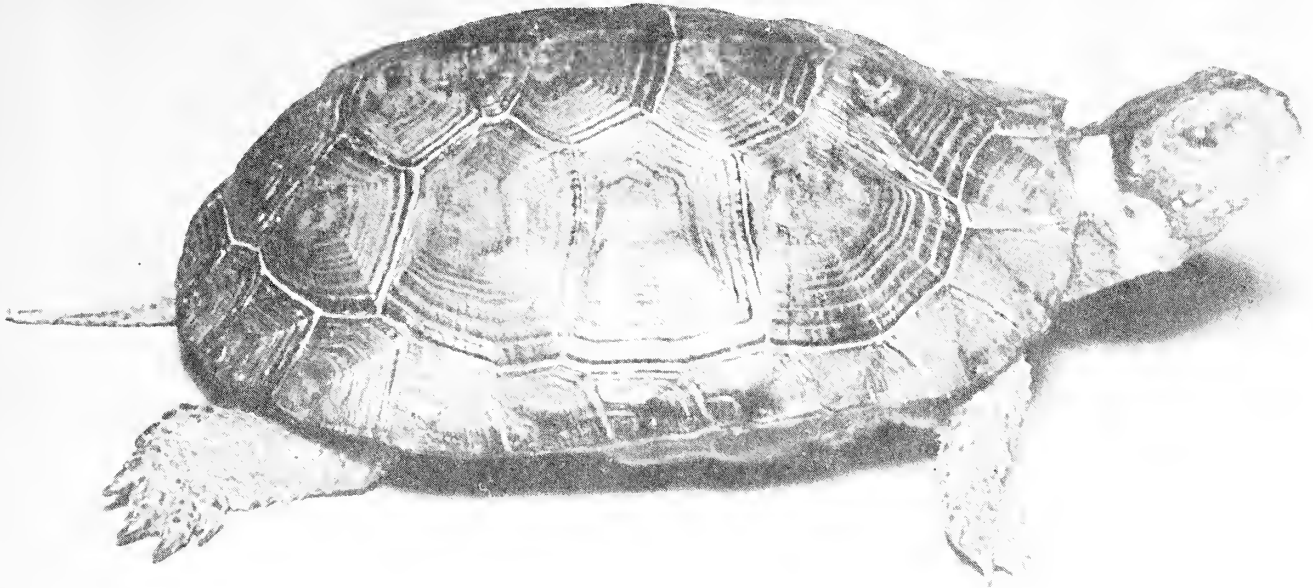
No one knows why the Indians left, but there is a suspicion that 1000 years of *milpa* agriculture had deforested the country and depleted the soil. Indeed, one authority on the Maya went so far as to claim that all the old Maya country was converted from rainforest to savanna. This view may be extreme, but certainly there is little or no virgin forest in British Honduras, except perhaps on some of the most inaccessible peaks of the Cockscomb Range. And there is good evidence that numerous lakes and ponds, around which the Maya had settled and on which they depended for water, filled up with silt as a result of nearby deforestation and erosion.

At any rate, we are investigating the possible effect of the Maya on animal distribution in this region. We feel that animal bones, which are sometimes abundant in old Maya village sites, will afford clues to the environmental conditions that obtained when the villages were occupied. Reptile and amphibian bones should be especially useful; for many snakes, lizards, turtles, frogs, and salamanders are restricted to certain habitats or plant associations, and the presence of their bones amid the refuse of ancient Indian sites may imply that these habitats and associations once existed in the vicinity.

But first it is necessary to gather more basic data on the distribution and the environmental requirements of the British Honduras reptiles and amphibians. Space does not permit a listing of all the species that we have collected and studied in this country. The accompanying photographs (some of them made and generously provided by Mr. Wolffsohn) illustrate a few of the more interesting kinds, and certain of the habitats in which they are found. We hope eventually to prepare a checklist of the colony's herpetofauna, but it is much too soon to begin this project. Already we have found about 20 species whose presence in the country was previously unknown, and future trips will doubtless add many more. Even as I write this, Ross Allen and I are laying plans for investigation of the Cockscomb Range, highest mountains of British Honduras. The jagged peaks are virtually unknown from a biological standpoint, and almost surely they will yield bizarre amphibians and reptiles, new to our collections if not to science.

THE BOG TURTLE IN MARYLAND

by Howard W. Campbell



Clemmys muhlenbergi, the Bog Turtle. The apparently light markings on the sides of the head and neck are actually orange blotches. Photo by Robert S. Simmons.

The Bog turtle, *Clemmys muhlenbergi*, has been reported in Maryland from only a handful of specimens from three localities (Cooper, 1949; Barton and Price, 1955). Recent collections have added several localities and many specimens to the list.

Two specimens have been collected in a small roadside bog one mile SW of Eko in Baltimore County (R. S. Simmons, *pers. comm.*), and several more from Broad Creek, Harford County (J. E. Cooper, *pers. comm.*). Another colony of this turtle in northern Baltimore County has been observed for several years and a number of notes taken on their behavior. This locality is a stagnant swamp on the northeast bank of the Gunpowder Falls on the property of the Blue Mount Trap Quarry, one mile SW of Whitehall, and two miles E of Hereford.

The swamp is approximately 130 yds. long by 10 to 20 yds. wide; it is bordered on the north by the quarry and is being slowly filled in by the quarries scrap-dumping activities. To the east it is bordered by the fill of a railroad spur and a hillside, to the west by the Gunpowder Falls, and to the south by a damp meadow through which a small stream drains the swamp.

The dominant plant is Cattail, *Typha latifolia*, although this is located primarily at the southern end of the swamp. The majority of the water surface is open with very little plant growth of any kind. The water varies in depth from four to ten inches deep with a muddy bottom six inches to a foot deep. The water is usually covered with an orange scum, and occasionally by a light

oil slick from the quarry. Dominant reptiles in the area are *Chrysemys p. picta*, *Clemmys guttata*, *Kinosternon s. subrubrum*, and *Natrix s. sipedon*. The most abundant amphibians are *Rana palustris*, *Hyla c. crucifer*, and *Bufo ameri-*, *canus*. Immediately across the river to the west is a small sphagnaceous bog. No Bog turtles have been found there in spite of intensive collecting.

The first Bog turtles were collected in the swamp on July 28, 1951. Between that date and May 23, 1953, 21 specimens were captured or observed. Only six specimens were actually removed from the swamp, two of these being empty shells. Nine of the remaining 15 turtles were marked by notching the marginals and released, but none was ever recaptured. The others were released without being marked.

The earliest recorded specimen was an empty shell with some flesh in a high state of putrefication, collected on April 10. On the following day a female was collected moving about in the small stream draining the swamp to the south. The greater majority of specimens were collected in the months of May and July, the latest recorded appearance being October 17.

Apparently, natural mating in this species has been reported only once. Barton and Price (1955) give the only record for mating in nature, on June 4 in Pennsylvania. Mating pairs of these turtles were observed on two occasions in the Baltimore County swamp, on May 30, 1952, and May 9, 1953. On both occasions the turtles were in water deep enough to cover the females completely and the males partially. In both instances the male had hooked his feet under the female's marginals and was observed to lean forward and make snapping motions at the female's withdrawn head.

The feeding activities of wild Bog turtles has been observed frequently. On June 10, 1952, a small male (61 mm) was collected while feeding on a dead *Rana palustris* under about four inches of water. On another occasion, May 9, 1953, a specimen was observed eating the larvae of the Baltimore butterfly, *Euphydras phaeton*, in the small meadow to the south of the swamp. These observations support the observations of Barton and Price (1955) that this species feeds with equal ease both above and below the water. Several captive specimens have voided the remains of an unidentified species of snail.

In this area the Bog turtle's main enemy seems to be the Raccoon, *Procyon lotor*, since both of the dead, empty shells found were surrounded by the tracks of this animal. Numerous shells of *Clemmys guttata*, *Kinosternon s. subrubrum*, and occasional *Chelydra serpentina* were found in the same condition.

The largest specimen collected in this area was a male measuring 97 mm. in a straight line through the carapace. The largest female measured 96 mm.

I would like to express my appreciation to Mr. John E. Cooper for bringing the Harford County record to my attention, and to Dr. Robert S. Simmons for the use of the Eko record, and for identifying the larvae of the Baltimore butterfly.

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- Barton, A.J. and J.W. Price, Jr., 1955. Our knowledge of the Bog Turtle, *Clemmys muhlenbergi*, Surveyed and Augmented. *Copeia*, (3): 159-65.
Cooper, John E., 1949. Additional Records for *Clemmys muhlenbergi*, from Maryland. *Herpetologica*, (5): 75-6.

A MATING ANTIC OF THE LONG-TAILED SALAMANDER. - In the course of a study of the ecology of a chromite mine adit near the intersection of Falls and Old Pimlico Roads, Bare Hills, Baltimore County, Maryland, in 1955, I observed preliminary courtship activities in the long-tailed salamander, *Eurycea longicauda longicauda* Green.

The adit is a nearly straight shaft extending horizontally in a southerly direction for ca. 165 feet into a hillside. It averages 6 feet wide, tapering at the rear as a result of cave-in. It ends in a dry-floored "room" (6 X 12 feet) which is the only dry ground in the shaft. The rest is filled with water which varies from a few shallow, scattered pools in summer to better than three feet in depth in the spring. On rainy days the water inflow through the ceiling is considerable, and the inside water level obviously depends to a large extent on rainfall. At one time the epigeic stream which flows by the entrance was slightly connected to the hypogeic water. Rock fall and breakdown have raised the level of the ground at the entrance and separated the epigeic and hypogeic waters.

In the adit lives a population of *Eurycea l. longicauda* and *Rana palustris*, with a few *Desmognathus fuscus fuscus* and *Eurycea bislineata bislineata*, and an occasional *Pseudotriton ruber ruber*. The size of the *longicauda* population has diminished in recent years; this is due in large part to some indiscriminate collecting.

On October 18, 1955, the date of these observations, no salamanders were seen along the walls from the entrance to the 50 foot mark. Near this mark I saw and touched a *longicauda* which was on a ledge. The salamander "flipped" into the water and swam rapidly on the surface with a frantic undulating movement straight up the middle of the stream for about 10 feet, where it disappeared into a dynamite hole in the side wall. Two salamanders emerged from the hole and the original occupant moved about 12 inches down the wall to the water level while the intruder moved a short distance rearward in the shaft. The original occupant of the hole was stump-tailed, as were other members of the population in the adit, and was evidently a male, with the region of the naso-labial grooves being vastly swollen and the cirri very pronounced. This salamander, having moved to the water's edge, moved immediately back to the edge of the hole, then off in the direction of the first salamander, a female. He crossed directly in front of the female and under her chin, apparently in an attempt to "head her off." He then rubbed his head around the anal region of the female, apparently attempting hedonic gland stimulation, but she moved about a foot away. The male, moving very erratically, went off in the direction of the water, alert and obviously seeking. He then moved back to the dynamite hole but did not go in. His movements were such as to bring to mind the term "spastic."

After examining the edge of the dynamite hole for awhile the male moved off quickly along the route which the female had taken. She had moved several feet from the original site and was sitting stationary. However, when the male caught up with her and his snout touched her tail, she moved off away from him headed in the direction of the water. The male followed and the female turned and headed back up the wall. Several times he made almost

frantic attempts to head her off, and on one occasion his pursuit was so intent that he fell off a small face of the wall. When he finally overtook the female she stopped. He then moved in front of her so they were snout to snout. The female moved off quickly to one side, but the male immediately followed.

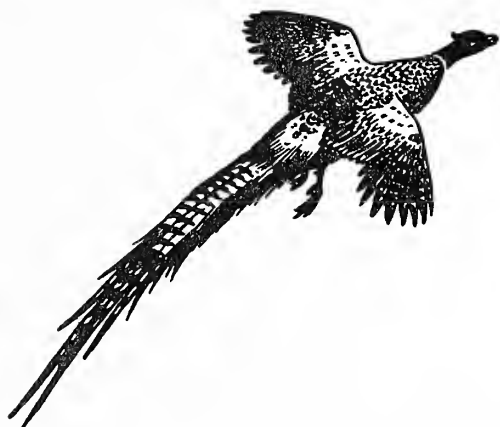
The observation, which had lasted 40 minutes, was then interrupted by a disturbance in the shaft. When I returned to the vicinity later I could not locate the salamanders.

Temperatures in the vicinity of the 50 foot mark in degrees Centigrade were: water 12.8°; air ca. 2 feet above water 12.5°; air at ceiling 13.4°. Relative humidity, measured with a sling psychrometer, was 94 - 100%.

Frank R. Manson records the following note in the Field Journals of the Natural History Society of Maryland. "On November 16, 1947 . . . I found 40 exceptionally large adult Long-tailed salamanders. The females were all gravid and the males had their naso-labial folds enlarged such as the Two-lined salamander (*Eurycea b. bislineata*) during the mating and breeding season."

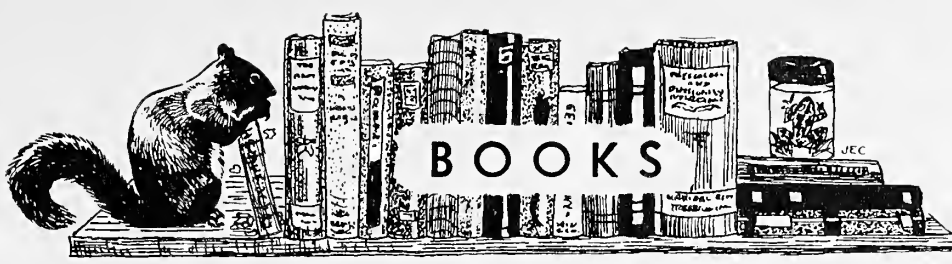
The eggs have yet to be discovered in the Bare Hills Chrome Mine adit.

This inconclusive observation is published in the hope that it might give a clue to the mating activities of this species, the natural history of which in Maryland bears investigation. - John E. Cooper, Department of Herpetology, Natural History Society of Maryland.



THE MARYLAND NATURALIST will publish well-written articles and notes concerning all phases of Natural History. Preference will be given to literature concerning the State of Maryland and the work of Maryland naturalists, but worthwhile material from anywhere in the world will be utilized.

Contributors should type all manuscripts, double-spaced, on 8½" x 11" bond paper, and send them to: The Editor, MARYLAND NATURALIST, Natural History Society of Maryland, 2101-03 Bolton Street, Baltimore 17, Maryland; or to The Editor, MARYLAND NATURALIST, 3329 Ripple Road, Baltimore 7, Maryland.



A ZOO IN MY LUGGAGE by Gerald Durrell. The Viking Press, 1960. 198 pp., illustrated. \$3.95.

Books about wild animal adventures have for some time been developing into quite a different and distinctive genre. This segmental but not necessarily minor literary revolution has seen the swashbuckling tale of derring-do, wherein man is pitted against savage beast in blood-curdling combat to the end (whether the end be a steel-barred or moated cage or trophy rack for the savage beast, or the dispensary or possibly the deep-six for the man), replaced by gentler but no less adventuresome accounts concerned generally with the less obtrusive creatures that slink, pad, scurry and crawl about woodland and jungle.

This "new" school of book-writing about animals and animal collecting, which one might properly call the "cerebral" or "aesthetic" school, is characterized by sympathy rather than just healthy respect for fang and claw, by insight and an attempt to understand and present the essence of the transcendent connection between man and nature rather than just simple and often somewhat fanciful reporting. Even in the realm of the big-animal men, fabled tale-spinners like Du Chaillu, Akeley, Williams, and Buck have been replaced by men of more philosophical mien.

Most of the exceptional writers of the "group" which I have in mind are scientific small-game hunters, all of whom can make the capture of a missile-tongued African chameleon, or the discovery of a bug-eyed bushbaby, or the observation of tree frogs in breeding chorus, or the small sounds of the jungle night, or the soundlessness of depths, as stirring, as thrilling, and as meaningful as any elephant roundup. Names that come immediately to mind are Arthur Loveridge, Archie Carr, Beebe, Lorenz, Gilbert Klingel and Raymond Cowles. There are others, of course, and one of the very finest of all is Gerald Durrell.

This British naturalist, whom one of the weekly news magazines has quite properly called "a most unusual zoologist," certainly needs no introduction to devotees of fine natural history writing. His previous books, including such well-known titles as "The Bafut Beagles", "My Family and Other Animals", and "The Overloaded Ark", have made the rounds like the proverbial warm enchilada. He brings to his writing a degree of sophistication in the communication of a deep appreciation of the antics of animals and men that is almost belied by the simplicity of his style. He is very easy to read, and finishing one of his books becomes an obsession once started. And of course he never resorts to that miserable cuteness and anthropomorphism which marks and mars too many books on animals.

In "A Zoo In My Luggage", Mr. Durrell returns to the Cameroons of West Africa, land of the Fon of Bafut, surely one of the most colorful (thanks, perhaps, to Mr. Durrell) of men. His objective - to garner a collection of birds, mammals and reptiles for a proposed private zoo of his own back in England. The story of what happens to his plans for the establishment of this zoo makes up the last section of the book, but the remainder is devoted to field work by himself and his companions in West Africa.

As an example of the kinds of observations that Mr. Durrell passes along to his readers, consider the statement that ". . . the rocks lay folded in great layers like untidy piles of fossilized magazines." Or his recording of pidgin English conversations which make delightful and incomparable reading, such as in his initial meeting on this trip with the Fon.

" 'Wah! Happy?' said the Fon. 'I get happy for see you. When dey done tell me you come for Cameroon again I get happy too much.'

"I sipped my drink cautiously. 'Some man done tell me that you get angry for me because I done write dat book about dis happy time we done have together before. So I de fear for come back to Bafut,' I said.

"The Fon scowled. 'Which kind of man tell you dis ting?' he inquired furiously.

" 'Some European done tell me.'

" 'Ah! European,' said the Fon, shrugging, as if surprised that I should believe anything told to me by a white person. 'Na lies dis.' "

His zoo eventually comes to include pythons, bushbabies, a black-footed mongoose, a pygmy mongoose, cobras, lemurs, various and sundry monkeys, chimpanzees, rhinoceros vipers, squirrels, porcupines, egg-eating snakes, baboons, clawed frogs, and a bevy of other odd but interesting animals. On each of these Mr. Durrell kept a running diary of habits and idiosyncrasies, and some of these are recorded with alacrity. Entomologists will be appalled to know that Mr. Durrell has used *Goliathus* larvae as an item in the diet of patas monkeys.

This author's attitude towards the animals about which he writes can be summed up by quoting his reaction to his first observed specimen of a colorful but bald-headed bird with the wonderful name of *Picathartes*.

"So Bob and I lay there staring at the bird with the ardent, avid expressions of a couple of philatelists who have just discovered a penny black in a child's stamp album."

That comes about as close to explaining his views, and the views of a lot of naturalists, as most things I can think of.

John E. Cooper

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